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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,644	09/30/2003	Givi Georgievitch Zukavishvili	081468-0306169	1140
909	7590	12/06/2004	EXAMINER	
PILLSBURY WINTHROP, LLP			NGUYEN, HUNG	
P.O. BOX 10500			ART UNIT	PAPER NUMBER
MCLEAN, VA 22102			2851	

DATE MAILED: 12/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/673,644

**Applicant(s)**

ZUKAVISHVILI ET AL.

**Examiner**

Hung Henry V Nguyen

**Art Unit**

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 10-16 and 20-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 17-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-25 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2,3/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of group I (claims 19-17-19) in the reply filed on 9/27/2004 is acknowledged. The traversal is on the ground(s) that "the search and examination of the entire application can be conducted without serious burden". This is not found persuasive because while group I is explicitly related to a radiation source and corresponding lithography apparatus and a device manufacturing method, where the wicking surface is configured to control liquid circulation, group II is related to a radiation source, having means for cooling off the discharge surface and group III is drawn to a radiation source having means for capturing contamination generated and emitted from the radiation source, group IV is related to an aperture provided in the radiation source, having a plurality of electrically conductive structures, and is substantially open to radiation but substantially closed electrically, and group V is related to a radiation source with closed heat pipe. As such, the distinct and separate searches are quite extensive and place serious burden on the Examiner in regard to both search and examination.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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3. Claims 1-9 and 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Silfvast (U.S.Pat. 5,499,282).

With respect to claims 1 and 17-19, Silfvast (figure 9) discloses a radiation source and corresponding exposure device comprising all basic features of the instant claims such as: an anode (712) and a cathode (706) that are configured and arranged to create a discharge in a substance in a discharge space (708) between the anode and cathode and to form a plasma (604) so as to generate electromagnetic radiation, wherein a surface of wicking surface area (714) defining the discharge space (708) is configured to transport a liquid towards the discharge space from a liquid reservoir in contact with the wicking surface area (see col.10, lines 23-45).

As to claim 2, Silfvast discloses the wicking surface area (714) is provided on the anode

With respect to claims 3-5, Silfvast teaches a cooling surface area (702) of a wall defining the discharge space is provided with cooling to condense vaporized liquid from the discharge space to transfer heat from the discharge space to the cooling surface and material comprised in the liquid is used in creating the plasma (see col.10, lines 46-63).

As claims 6-9, Silfvast teaches that the radiation source comprises an energetic beam to irradiate the wicking surface area proximate the discharge space and the energetic beam is a beam of charge particles or laser beam (see col.3, lines 15-35).

***Prior Art Made of Record***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

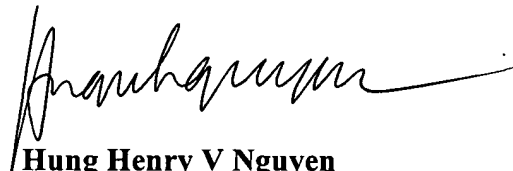
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Schriever et al (U.S.Pat. 6,804,327); Neff et al (U.S.Pat. 6,389,106); Wang et al (U.S.Pat. 5,243,638) and Melnychuk et al (U.S.Pat. 6,815,700) discloses apparatus and method for generating plasma light source, each of which comprises substantially all basic features of the instant claims.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Henry V Nguyen whose telephone number is 571-272-2124. The examiner can normally be reached on Monday-Friday (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**Hung Henry V Nguyen**  
**Primary Examiner**  
**Art Unit 2851**

hvn  
11/29/04